

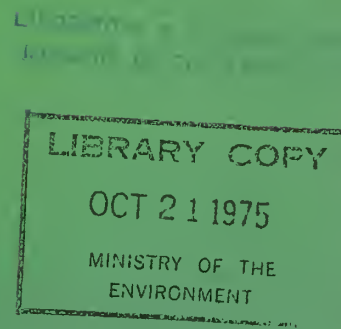


OPERATING SUMMARY

THE REGIONAL MUNICIPALITY OF
SUDBURY

BLEZARD VALLEY

WATER SUPPLY SYSTEM



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Blezard Valley : water supply
system.
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MINISTRY OF THE ENVIRONMENT

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BLEZARD is correct
WATER SUPPLY SYSTEM

MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by

Plant Performance Unit

TECHNICAL SERVICES BRANCH

T. Cross, Director



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'74 Review

GENERAL

The Blezard Valley Water Supply System consists of six well pumping stations with chlorination and standby power facilities and 22.5 miles of trunk water mains. The six wells have a total pumping capacity of 3.25 MGD.

Considerable difficulty was experienced in keeping the trunk line meters in proper working condition. A large amount of debris left in the trunk line during construction continually clogged the gear mechanisms in the meters thus giving improper readings. The meters were made functional after a considerable amount of maintenance by plant staff.

The Val Caron reservoir was put into operation in the latter part of 1974 and has almost completely eliminated the peaks in the daily pumping cycle.

The quality of the water has been very good and no complaints were received from the consumers other than a few complaints regarding high chlorine residuals in some 'dead end' watermains. The overall chlorine residuals were slightly reduced in the system to correct this problem.

PROCESS CONTROL

A total of 279.052 million gallons of water was pumped during 1974 which represents an average daily flow of 765,000 gallons per day. The average per capita flow is estimated to be 50 GPCD. This estimate is based on the number of permits issued as the records of persons per connection have not been maintained.

PROCESS CHEMICALS

A total of 1,238 lbs. of chlorine was used in 1974 to disinfect the water. This represents an average dosage of 0.44 mg/l to maintain an average chlorine residual of 0.20 mg/l in the distribution system.

WATER QUALITY

The average alkalinity as CaCO_3 in the raw water in 1974 was 82 mg/l. The maximum and minimum values were 150 mg/l and 40 mg/l respectively.

The average total hardness as CaCO_3 in the raw water in 1974 was 121 mg/l. The maximum and minimum values were 178 mg/l and 48 mg/l respectively.

The average chloride as Cl in the raw water in 1974 was 12 mg/l. The maximum and minimum values were 28 mg/l and 12 mg/l respectively.

The average iron as Fe in the raw water in 1974 was 0.05 mg/l. The maximum and minimum values were 0.15 mg/l and 0.03 mg/l respectively.

The average pH of the raw water in 1974 was 8.1. The maximum and minimum values were 8.7 mg/l and 7.6 mg/l respectively.

The above results are based on 18 samples.

BACTERIOLOGICAL ANALYSIS

A total of 59 raw water bacteriological samples and 17 treated water bacteriological samples were submitted by plant staff to the Sudbury Health Unit for bacteriological analyses. There were no coliform counts in any of the samples submitted for analyses.

EXPENDITURES

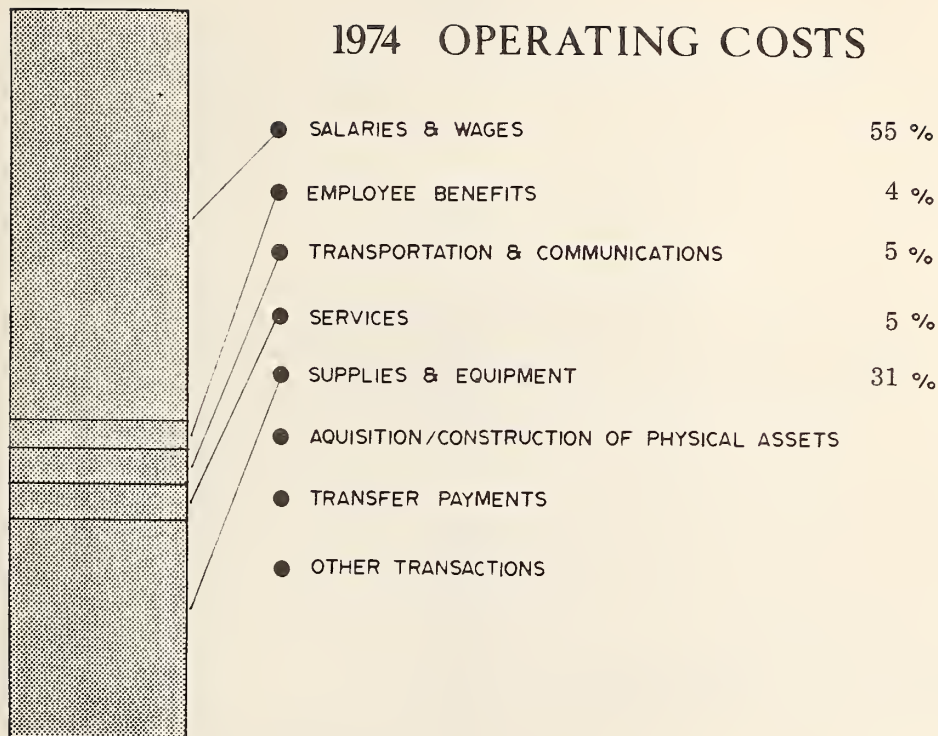
The total operating cost for 1974 was \$70,601.00.

CONCLUSIONS

There were no serious operating problems in 1974. It is expected that flows will increase as further areas are serviced but this is not expected to present any serious operating problems.

ANNUAL COSTS

1974 OPERATING COSTS



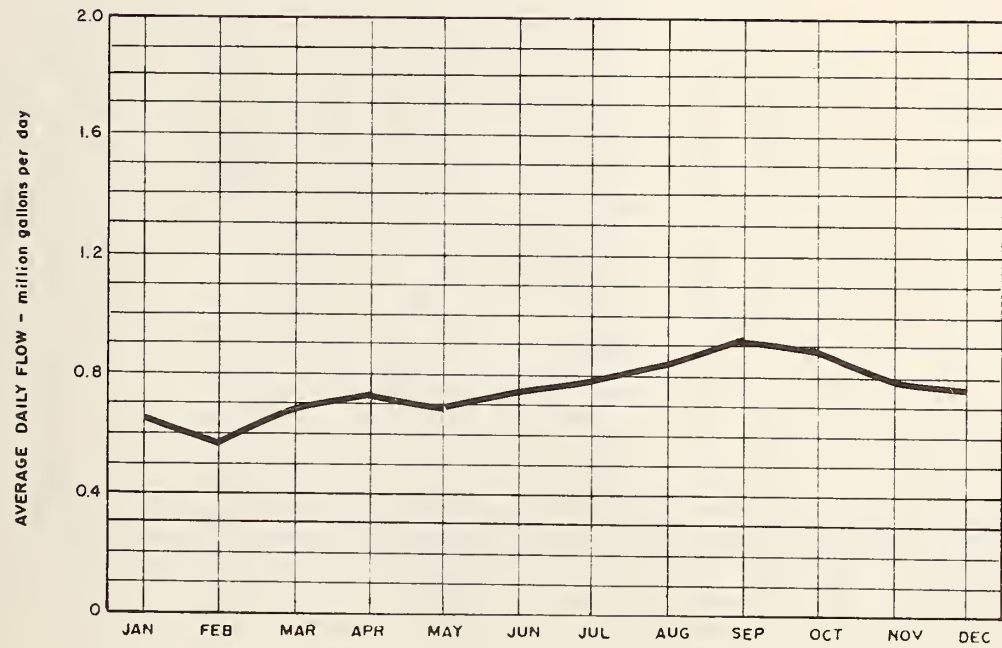
YEARLY OPERATING COSTS

YEAR	WATER TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS
			cents /1000 gal.
1974	279.	\$ 70601	25

OPERATING EXPENDITURES

Regular Staff	\$ 38438	\$
Casual (Unclassified) Staff	304	
TOTAL SALARIES AND WAGES		38742
TOTAL EMPLOYEE BENEFITS		3041
TOTAL TRANSPORTATION AND COMMUNICATIONS		3281
Insurance	1141	
Sludge Haulage		
Repairs and Maintenance	428	
Other Services	2230	
TOTAL SERVICES		3799
Machinery and Equipment	4834	
Chemicals	155	
Utilities	12370	
Other Supplies and Equipment	4379	
TOTAL SUPPLIES AND EQUIPMENT		21738
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		
GRAND TOTAL	GRAND TOTAL	\$ 70601

PROCESS DATA FLOWS



DESIGN CAPACITY - - - - -

TREATMENT DATA

MONTH	COMBINED		WELL "A"		WELL "B"		WELL "C"	
	TOTAL FLOW million gallons	AVERAGE DAY mil. gal.	TOTAL FLOW million gallons	CHLORINE USED pounds	TOTAL FLOW million gallons	CHLORINE USED pounds	TOTAL FLOW million gallons	CHLORINE USED pounds
JAN	20.282	.654	5.235	38	.709	0	2.361	14
FEB	17.891	.577	5.353	36	.598	2	8.402	45
MAR	21.394	.690	7.428	53	.421	0	10.117	52
APR	21.695	.723	6.339	38	1.901	6	11.566	45
MAY	21.454	.692	8.790	41	5.640	16	5.360	31
JUNE	22.737	.758	9.950	55	7.859	22	.440	1
JULY	24.394	.797	6.625	35	4.109	17	4.505	20
AUG	26.213	.846	4.111	30	2.186	7	12.038	82
SEPT	27.667	.922	.470	1	4.651	23	11.416	76
OCT	27.743	.895	.594	0	3.764	12	12.107	59
NOV	23.821	.794	.154	1	2.695	7	11.563	47
DEC	23.761	.766	.412		2.837	6	11.485	55
TOTAL	279.052	-	55.461	331	37.370	118	101.360	527
AVG.	-	.765	.194	.6	.118	.3	.328	.5

TREATMENT DATA

MONTH	WELL "D"		WELL "E"		WELL "F"		BACTERIOLOGICAL SAMPLING			
	TOTAL FLOW million gallons	CHLORINE USED pounds	TOTAL FLOW million gallons	CHLORINE USED pounds	TOTAL FLOW million gallons	CHLORINE USED pounds	RAW		DISTR. SYSTEM	
							No. OF SAMPLES TAKEN	No. WITH COLI PRESENT	No. OF SAMPLES TAKEN	No. WITH COLI PRESENT
JAN	.104	1	11.395	36	.478	0	6	0	2	0
FEB	.285	0	3.116	10	.137	1	6	0	2	0
MAR	1.148	2	.456	0	1.824	2	6	0	2	0
APR	.467	0	1.179	6	.243	1	6	0	2	0
MAY	1.349	2	.270	1	.045	0	-	-	-	-
JUNE	3.821	1	.667	2	0	0	5	0	2	0
JULY	6.981	13	1.879	5	.295	1	6	0	1	0
AUG	7.216	21	.571	2	.091	0	6	0	1	0
SEPT	9.628	42	.786	2	.716	1	6	0	1	0
OCT	9.923	31	.878	5	.477	0	6	0	1	0
NOV	8.766	42	.460	3	.183	2	6	0	3	0
DEC	8.112	34	.649	0	.266	2	-	-	-	-
TOTAL	57.800	180	22.306	72	4.755	10	59		17	0
AVG.	.196	Dose .3	.094	.3	.033	.2				

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as CaCO_3	18	121	198	48					80 - 100
ALKALINITY in mg/l as CaCO_3	18	82	150	40					30 - 100
IRON in mg/l Fe	18	.05	.15	.03					Less than 0.3
CHLORIDE in mg/l Cl^-	18	12	28	2					Less than 250
pH in pH units	18	8.1	8.7	7.6					7.0 - 8.5
Conductivity	18	264	370	108					

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